

REMARKS

Claims 1-6 were presented for examination and were pending in this application. In the latest Office Action, claims 1-6 were rejected, and the specification was objected to. With this amendment, claim 1 is amended, claims 5 and 6 are canceled, and new claims 7-10 are added. On the basis of the following remarks, consideration of this application and allowance of all pending claims are requested.

The specification has been amended to correct a typographical error, as required by the Office Action.

Claim 1 has been amended to include the limitations from dependent claims 5 and 6. Accordingly, the rejection of claims 1-4 as anticipated by U.S. Patent No. 6,034,870 to Osborn et al. has been mooted. Original claim 5 was rejected as anticipated by U.S. Patent No. 5,934,368 to Tanaka et al., and original claim 6 was rejected as anticipated by U.S. Patent No. 2,948,518 to Kraus. It is respectfully asserted that amended claim 1 and dependent claims 2-4, which now include the limitations from claims 5 and 6, are patentable over the previously cited references.

Amended claim 1 and new claim 7 are drawn to a cooling system or apparatus for a personal computer in which a fan directs an airflow into a computer chassis. The airflow eventually leaves the computer chassis through a plurality of air outlets, which are located far from electronic components on the motherboard that generate a relatively large amount of heat and near elements on the motherboard for which less heat dissipation is desired. The heated exhaust air is thus generally directed out of the chassis near the low-heat electrical components instead of near the high-heat electrical components. By directing the heated air away from the components that most need cooling, the cooler airflow tends to be directed over components that

generate more heat, thereby increasing the overall cooling effectiveness of the system. None of the cited references disclose these claimed features.

Osborn discloses a cooling system in a computer where the air is directed out of the computer through vents that are located next to the components for which the cooling is primarily desired (e.g., the power supply 50, the CPU heat sink 34, and a space 56 where interface cards are to be located). In Osborn, the airflow will to some extent pass over other components on the motherboard that generate relatively less heat (i.e., the “low-heat electrical components”). This heated air will then have to exit the chassis through the vents, which are located near the components that generate the most heat. This is less efficient, as it is desirable to have a colder airflow pass over the components that need more heat dissipation. Osborn thus lacks the features of the claimed invention that address this problem.

Tanaka is concerned with cooling an electronic device while avoiding condensation within the device. Unlike the claimed invention, however, Tanaka does not address the problem of having a number of electrical components on a motherboard, where some of the components produce more heat and need more cooling than other components. First, Tanaka does not even have a motherboard with various components; Tanaka’s system is for cooling a number of printed circuit boards that appear to be identical. Accordingly, Tanaka does not disclose or suggest a chassis that has air outlets located far from electronic components on the motherboard that generate a relatively large amount of heat and near electrical components on the motherboard for which less heat dissipation is desired (or, air outlets that are located closer to the low-heat electrical components than to the high-heat electronic components).

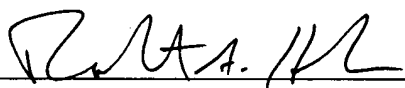
Kraus also deals with the general problem of cooling electronics equipment, but like Tanaka, Kraus does not address the problem of having electrical components on a motherboard

that have different cooling needs. Therefore, the exhaust holes in Kraus's electric equipment are not located far from electronic components on the motherboard that generate a relatively large amount of heat and near electrical components on the motherboard for which less heat dissipation is desired (or, air outlets that are located closer to the low-heat electrical components than to the high-heat electronic components). Moreover, Kraus is not concerned with minimizing the air temperature of the cooling air near any high-heat components. This is because Kraus is for cooling electronics in aircraft, where the cooling air may be much colder than desired. (Kraus, col. 1, lines 45-56). In fact, Kraus actually pre-heats some of the external air before passing it over the electrical components. (Kraus, col. 1, lines 56-61). Accordingly, the motivations in Kraus actually conflict in many ways with those of the claimed invention.

Based on the foregoing, the application is in condition for allowance of all claims, and a Notice of Allowance is respectfully requested. If the examiner believes for any reason direct contact would help advance the prosecution of this case to allowance, the examiner is encouraged to telephone the undersigned at the number given below.

Respectfully submitted,
KUO YI-LUNG

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